

WHAT IS CLAIMED IS:

1. A transmission method, comprising:
encoding both first and second nominally orthogonal polarization signals with a same long code; and
transmitting the long-encoded first and second nominally orthogonal polarization signals from respective first and second transmission sources to at least one destination.
2. The method of Claim 1, further comprising:
orthogonalizing plural sub-channels of each of the first and second nominally orthogonal polarization signals by applying respective plural mutually distinct Walsh codes in each sub-channel.
3. The method of Claim 2, wherein the orthogonalizing step includes:
applying different Walsh codes to different respective signals originating from different respective users of the communication system.
4. The method of Claim 3, wherein:
the transmitting step is carried out in an orthogonal code division multiple access (OCDMA) communications system.
5. The method of Claim 1, wherein:
the transmitting step is carried out in an orthogonal code division multiple access (OCDMA) communications system.
6. The method of Claim 1, wherein the transmitting step includes:
transmitting the long-encoded first and second nominally orthogonal polarization signals from plural first transmission sources and from plural second transmission sources, respectively, to the at least one destination.

7. A communication method including the transmission method of Claim 1 and further comprising:

at the destination, receiving the encoded first and second nominally orthogonal polarization signals; and

applying the same long code to the received encoded first and second nominally orthogonal polarization signals received at the destination.

8. A method of demodulating first and second nominally orthogonal polarization signals that were transmitted from respective first and second transmission sources after having been encoded with a same long code, the method comprising:

receiving the encoded first and second nominally orthogonal polarization signals; and

applying the same long code to the received encoded first and second nominally orthogonal polarization signals.

9. The method of Claim 8, further comprising:

separating plural sub-channels within each of the first and second nominally orthogonal polarization signals by applying respective plural mutually distinct Walsh codes in each sub-channel.

10. The method of Claim 9, wherein the separating step includes:

applying different Walsh codes to different respective signals originating from different respective users of the communication system.

11. The method of Claim 10, wherein:

the receiving step is carried out in an orthogonal code division multiple access (OCDMA) communications system.

12. The method of Claim 8, wherein:

the receiving step is carried out in an orthogonal code division multiple access (OCDMA) communications system.

13. A communication method including the demodulating method of Claim 8 and further comprising:

encoding both the first and second nominally orthogonal polarization signals with the same long code; and

transmitting the long-encoded first and second nominally orthogonal polarization signals from respective first and second transmission sources to at least one destination at which the demodulating method is performed.

14. The method of Claim 13, wherein the transmitting step includes:

transmitting the long-encoded first and second nominally orthogonal polarization signals from plural first transmission sources and from plural second transmission sources, respectively, to the at least one destination.

15. A computer program product storing program instructions for execution on a computer system having at least one data processing device, whose instructions when executed by the computer system cause the computer system to perform the method of Claim 1.

16. A computer program product storing program instructions for execution on a computer system having at least one data processing device, whose instructions when executed by the computer system cause the computer system to perform the method of Claim 7.

17. A computer program product storing program instructions for execution on a computer system having at least one data processing device, whose instructions when executed by the computer system cause the computer system to perform the method of Claim 8.

18. A system configured to perform the method of Claim 1.

19. A system configured to perform the method of Claim 7.

20. A system configured to perform the method of Claim 8.

21. A transmission system comprising:

means for encoding both first and second nominally orthogonal polarization signals with a same long code;

first means for transmitting the long-encoded first nominally orthogonal polarization signal from a first source to at least one destination; and

second means for transmitting the long-encoded second nominally orthogonal polarization signal from a second transmission source to at least one destination.

22. The system of Claim 21, further comprising:

means for orthogonalizing plural sub-channels of each of the first and second nominally orthogonal polarization signals by applying respective plural mutually distinct Walsh codes in each sub-channel.

23. The system of Claim 22, wherein the orthogonalizing means includes:

means for applying different Walsh codes to different respective signals originating from different respective users of the communication system.

24. The system of Claim 21, wherein the first and second transmitting means include:

means for transmitting the long-encoded first and second nominally orthogonal polarization signals from plural first transmission sources and from plural second transmission sources, respectively, to the at least one destination.

25. A communication system including the transmission system of Claim 21 and further comprising:

means for receiving the encoded first and second nominally orthogonal polarization signals; and

means for applying the same long code to the received encoded first and second nominally orthogonal polarization signals received at the destination.

26. A system for demodulating first and second nominally orthogonal polarization signals that were transmitted from respective first and second transmission sources after having been encoded with a same long code, the system comprising:

means for receiving the encoded first and second nominally orthogonal polarization signals; and

means for applying the same long code to the received encoded first and second nominally orthogonal polarization signals.

27. The system of Claim 26, further comprising:

means for separating plural sub-channels within each of the first and second nominally orthogonal polarization signals by applying respective plural mutually distinct Walsh codes in each sub-channel.

28. The system of Claim 27, wherein the separating means includes:

means for applying different Walsh codes to different respective signals originating from different respective users of the communication system.

29. A communication system including the demodulating system of Claim 26 and further comprising:

means for encoding both the first and second nominally orthogonal polarization signals with the same long code;

first means for transmitting the long-encoded first nominally orthogonal polarization signal from a first transmission source to at least one destination; and

second means for transmitting the long-encoded second nominally orthogonal polarization signal from a second transmission source to at least one destination.

30. The system of Claim 29, wherein the first and second transmitting means include:

means for transmitting the long-encoded first and second nominally orthogonal polarization signals from plural first transmission sources and from plural second transmission sources, respectively, to the at least one destination.